

PRODUCT SPECIFICATION

802.11a/b/g/n/ac, 2T2R Wireless LAN USB2.0 Module

WN4517L

Realtek RTL8812AU

Version 1.2

LiteOn P/N: AAZ100365D0

TPV P/N: 317GAAWF651LON

Change History

Revision	Date	Author	Change List
Version 1.0	2016/09/01	Ben J Chen	Preliminary
Version 1.1	2016/09/22	Ben J Chen	Update the thickness of gold flash plated
Version 1.2	2016/11/15	Ben J Chen	Update Power Consumption

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**Networking B.U.
Lite-on Technology Corporation
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Chung Ho, New Taipei City 235, Taiwan, R.O.C.**

Customer Approval: _____ (Signature)

_____ (Title)

_____ (Company)

_____ (Date)

(Please Sign Back by FAX. For Confirming the Spec Only, not an Official Agreement for OEM/ODM Business)

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PRODUCT FEATURES

- Operate at ISM frequency Band (2.4/5GHz)
- IEEE Standards Support, 802.11a, 802.11b, 802.11g, 802.11n, and 802.11ac
- USB 2.0 support for data rates up to 12Mbps full speed and 480Mbps high speed
- Enterprise level security supporting: WEP 64/128, WPA, WPA2, WAPI
- Support 2 transmission and 2 receiving, transmission rate can up to 300Mbps (Physical Rate) in 802.11n; and 866.7Mbps in 802.11ac
- Wi-Fi Direct supports wireless peer to peer applications
- RoHS compliance
- Low Halogen compliance

PRODUCT SPECIFICATIONS

MAIN CHIPSET

MAC/ Baseband/ RF: Realtek 8812AU-VS-CG

FUNCTIONAL SPECIFICATIONS

WiFi Function	
Standard	IEEE802.11a; IEEE802.11b; IEEE 802.11g; IEEE 802.11n; IEEE802.11ac
Bus Interface	Universal Serial Bus (USB2.0)
Data Rate	<p>802.11b: 11, 5.5, 2, 1 Mbps</p> <p>802.11a/g: 54, 48, 36, 24, 18, 12, 9, 6 Mbps</p> <p>802.11n: MCS 0 to 15 for HT20MHz MCS 0 to 15 for HT40MHz</p> <p>802.11ac: MCS 0 to 8 for HT20MHz MCS 0 to 9 for HT40MHz MCS 0 to 9 for HT80MHz</p>
Media Access Control	CSMA/CA with ACK
Modulation Techniques	<p>802.11b: CCK, DQPSK, DBPSK</p> <p>802.11a/g: 64QAM, 16QAM, QPSK, BPSK</p> <p>802.11n: 64QAM, 16QAM, QPSK, BPSK</p> <p>802.11ac: 256QAM, 64QAM, 16QAM, QPSK, BPSK</p>
Network Architecture	Ad-hoc mode (Peer-to-Peer) Infrastructure mode
Operation Channel	<p>5GHz 12: – United States 19: – Europe 8: – Japan</p> <p>2.4GHz 11: (Ch. 1-11) – United States 13: (Ch. 1-13) – Europe 14: (Ch. 1-14) – Japan</p>
Frequency Range	<p>802.11a/ac 5.15~5.85 GHz</p> <p>802.11b/g 2.400 ~ 2.4835 GHz</p>

Receiver Sensitivity	802.11a: -86 dBm@6Mbps -69 dBm@54Mbps
	802.11b: -88 dBm@1Mbps -82 dBm@11Mbps
	802.11g: -86 dBm@6Mbps -69 dBm@54Mbps
	802.11n(2.4/5GHz): 20MHz -86 dBm@MCS0 -68 dBm@MCS7 40MHz -83 dBm@MCS0 -65 dBm@MCS7
	802.11ac: 20MHz -85 dBm@MCS0 -62 dBm@MCS8 40MHz -82 dBm@MCS0 -57 dBm@MCS9 80MHz -79 dBm@MCS0 -54 dBm@MCS9

OS Supported

Microsoft Windows Win7/Win8/Win8.1/Linux

Operating Voltage

5V ±10% I/O supply voltage

Power Consumption Test Condition: - Operate at HT40 - File Transmission	Mode	Average		Peak	
		2.4G	5G	2.4G	5G
	TX	420mA	490mA	700mA	930mA
	RX	270mA	332mA		
	Unassociated idle	16mA			
Standby @Wake up mode	20mA				

RECOMMENDED OPERATION CONDITIONS

For Module

Symbol	Rating	Min	Typ	Max	Units
VCC	5V Supply Voltage	4.5	5	5.5	V

For IC

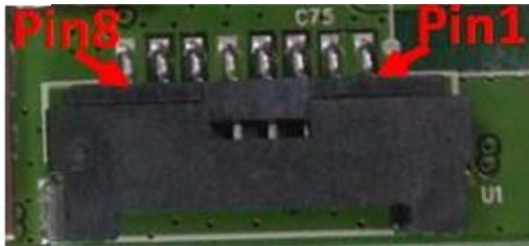
Symbol	Rating	Min	Typ	Max	Units
VDD33	3.3V Supply Voltage	3.0	3.3	3.6	V
VDD12	1.2V Supply Voltage	1.10	1.2	1.23	V

DC CHARACTERISTICS

Symbol	Parameter	Min	Typ	Max	Units
V _{IL}	Input Low Voltage	-	0	0.9	V
V _{IH}	Input High Voltage	2.0	3.3	3.6	V
V _{OL}	Output Low Voltage	0	-	0.33	
V _{OH}	Output High Voltage	2.97	-	3.3	V

PIN ASSIGNMENT

Pin.	Pin Define	Description	Status
1	+5VCC	5V source	YES
2	+5VCC	5V source	YES
3	USB_D-	USB Data-	YES
4	USB_D+	USB Data+	YES
5	GND	Ground	YES
6	RESET#	System reset RTL8812AU, low active	YES
7	WoWLAN#	Wake up system via wifi, low active	YES
8	GND	Ground	YES



CONNECTOR SPEC

Manufacture P/N: S1315-08RVB-SB3-KH

Thickness of gold flash plated: $\geq 1\mu$ "

版本 REV.	日期 DATE	ECN NO.	变更内容 DESCRIPTION	制图 DRAWN
B				

SS00S1CTS						
DN SNI/VAR/D各图规格管理						
No. of Contacts	DIMENSIONS					
	A	B	C	D	E	F
2	1.25	7.45	3.81	2.83	2.43	3.50
3	2.50	8.70	5.06	4.08	3.68	3.50
4	3.75	9.95	6.31	5.33	4.93	3.50
5	5.00	11.20	7.56	6.58	6.18	3.50
6	6.25	12.45	8.81	7.83	7.43	3.50
7	7.50	13.70	10.06	9.08	8.68	3.50
8	8.75	14.95	11.31	10.33	9.93	3.50
9	10.00	16.20	12.56	11.58	11.18	3.50
10	11.25	17.45	13.81	12.83	12.43	3.50
11	12.50	18.70	15.06	14.08	13.68	5.00
12	13.75	19.95	16.31	15.33	14.93	5.00
14	16.25	22.45	18.81	17.83	17.43	5.00
15	17.50	23.70	20.06	19.08	18.68	5.00
20	23.75	29.95	26.31	25.33	24.93	5.00
25	30.00	36.20	32.56	31.58	31.18	6.00
30	36.25	42.45	38.81	37.83	37.43	6.00

21P~30P
SCALE 0.8:1

0.30±0.10

5.70

A4±0.20

1.25±0.10

D

E

F±0.15

30P±0.10

4.50±0.25

3.70±0.25

2.60±0.25

0.3P~20P

0.15±0.03

0.2P

Recommended PCB Layout
(PCB tolerance ±0.05)

7.20±0.10

2.00±0.10

1.60±0.10

2.40±0.10

Ordering Code: S1315 - XX R V X - S03 - K

① Series NO.
② Circuits number
③ R: Right Angle
④ V: Prefix "V" means lead free plating
⑤ Plating Code:

Definition	Code
Ⓧ Tin plated:	A
Ⓧ Gold plated:	
Flash: B 15μ" F	
10μ" E 30μ" J	
Ⓧ Duplex plating:	
Flash: K 15μ" P	
10μ" N 30μ" U	

Null: Tube
K: Reel
C: FILM+REEL

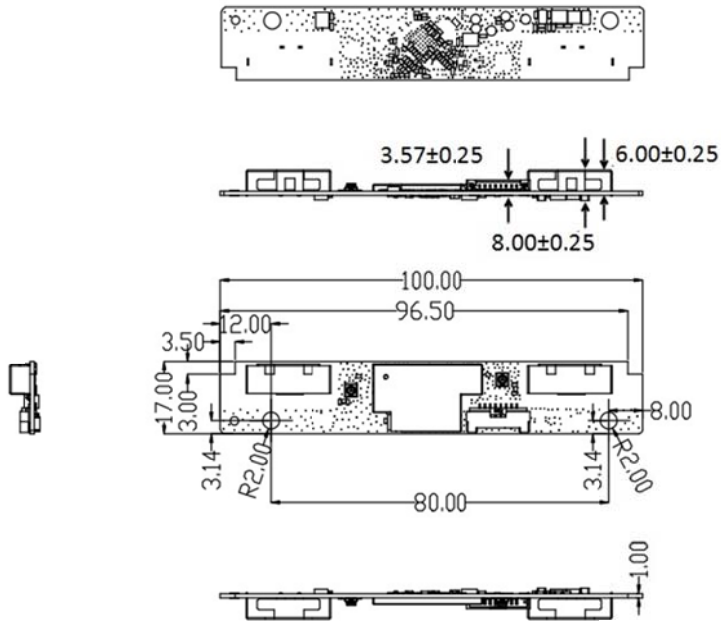
NOTES: (UNLESS OTHERWISE SPECIFIED)

- Temperature range: -25°C~+85°C
- Voltage rating: 150V,AC,DC
- Current rating: 1A
- Contact resistance: 20mΩ Max.
- Insulation resistance: 500MΩ Min.
- Withstand voltage: 500V,AC/minute

Material:
Housing: High Temperature Thermoplastic UL 94V-0
Contact: Phosphor Bronze, Gold plated
Clip: Brass, Gold plated

GENERAL TOLERANCE	公差	HALO	料号	PART NO.	S1315-XXRVB-S03-K	版本 REV.	A
X±0.30	X'±12'	材料	Knox.Jin	料号	1.25P SMD WAFER	张数	1/1
X±0.25	X'±11'	标准	Knox.Jin	零件号	03308032-XXF X	图号	
XXX±0.20	XXX'±0.5'	日期 (DR.D.)	2009.09.24	公司	苏州新亚电通有限公司	比例	1:1
XXX±0.15	XXX'±0.5'	单位 UNITS	MM	比例 SCALE	1:1	制图	

MECHANICAL



Tolerance: C

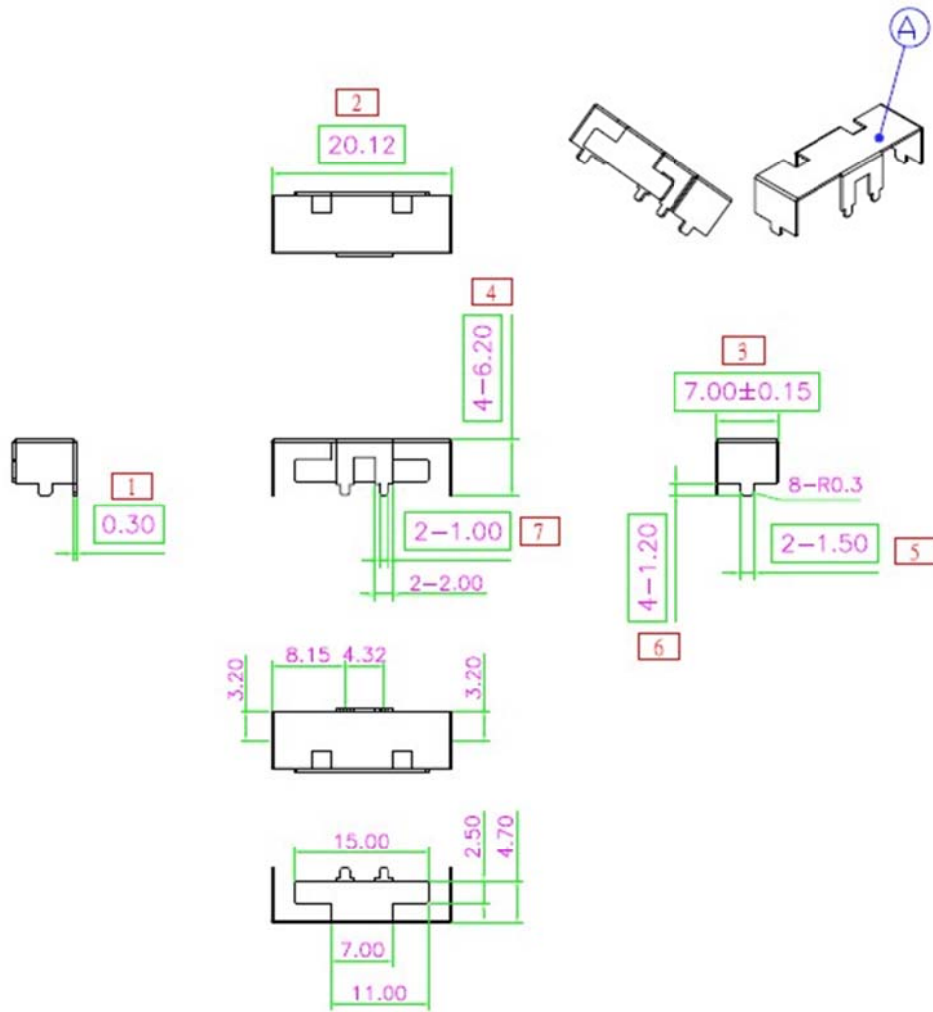
DIM	DEG				ANGLE
	A	B	C	D	
0-5	±0.05	±0.05	±0.10		0°-30° ±0.1°
5-10	±0.05	±0.10	±0.15		31°-60° ±0.3°
10-50	±0.10	±0.15	±0.20		61°-90° ±0.5°
50-100	±0.15	±0.20	±0.25		
100-	±0.15	±0.20	±0.25		

Unit: mm

METAL ANTENNA SPEC

On Board Antenna for WiFi (Q'ty:2pcs)

ELECTRICAL Frequency : 2.4/5. x GHz	No.	DESCRIPTION	MAT' L	Finish	Q' TY
	A	Antenna	SUS430 T=0.3mm	先鍍後沖	1



※標記□記號者, 為重點檢驗尺寸

		設計 DR.	HWCHAN	2015.02.06	品名	版本 REV.
		核准			ARTICLE	B
變更製程(由先沖後鍍改為先鍍後沖)		2016.05.18	HWCHAN		RFMTA200700NNLB002	
LTR	DESCRIPTION	DATE	RED. BY	容許公差 TOLERANCE	單位 UNIT	比例 SCALE
				0-5 ±0.05	mm	****
華新科技股份有限公司 Walsin Technology Corporation				5-10 ±0.10	張數 SHEET	1
				10-50 ±0.15		
				50-100 ±0.20		

EEPROM INFORMATION

Reg Domain	US
	0x25
Vendor ID	0x0BDA
Product ID	0x881A

ENVIRONMENTAL**Operating**

Operating Temperature: 0 to 70 °C

Relevant Humidity: 5-90% (non-condensing)

Storage

Temperature: -40 to 85 °C (-40 to 185 °F)

Relevant Humidity: 5-95% (non-condensing)

PACKING DRAWING

1 carton=6Layer*2=(12*5+1*0)*2=120pcs

ITEM	P/N	DESCRIPTION	QTY
1	XXXXXXX	product	1
2	52300194MCD	Clamshell	6/60
3	5210000004ZD	Straps	1.7m/60
4	xxx	附件天線	1
5	5160000928XD	Carton Sheet	2/120
6	50300002311D	Carton	1/120

NO	A	B	C	D	ANGLE
0-5	±0.02	±0.05	±0.10		0°-90° ±0.1°
5-10	±0.05	±0.10	±0.15		0°-90° ±0.2°
10-50	±0.10	±0.15	±0.20		0°-90° ±0.3°
50-100	±0.15	±0.20	±0.25		
JMP	±0.15	±0.20	±0.25		

A3	UNIT	SCALE	SHEET	MODEL No.	WCBN4502B	
	MM	FREE	1 of 1	PART NAME	DUMMY PACKAGE	
APPROVED	CHECKED	DESIGNED	PART No.	REV	A1	
TC Wu	AE Lu	Max Zhou	2015.05.27	光寶科技股份有限公司 LITE-ON TECHNOLOGY CORP.		

Note:

- 5LAYERS/HIGH=970MM
- CARTON OUT DIMENSIONS:350*300*170MM
- 120 SETS /CARTON
- 9 CARTON/LAYER
- 5400 SETS/PALLET
- SHIP BY AIR

不得含有
WI-C QES-002
要求禁用之有毒、有害物質

NO	PART NAME	PART NUMBER	QTY	QTY
1	PALLET	514000032D	1170*1140*120MM	1/5400
2	PAPER	5040000063D	850*50*50MM	8/5400
3	STRAPS	521000004GD	W=50MM	77/5400

NO	A	B	C	D	ANGLE
0-5	±0.02	±0.05	±0.10		0°-90° ±0.1°
5-10	±0.05	±0.10	±0.15		0°-90° ±0.2°
10-50	±0.10	±0.15	±0.20		0°-90° ±0.3°
50-100	±0.15	±0.20	±0.25		
JMP	±0.15	±0.20	±0.25		

UNIT	SCALE	SHEET	MODEL No.	WCBN4502B		
MM	FREE	1 of 1	PART NAME	PACKAGE		
APPROVED	CHECKED	DESIGNED	PART No.	REV	A1	
TC Wu	AE Lu	Max Zhou	2015.05.28	LITE-ON TECHNOLOGY CORP.		